UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/696,122	10/29/2003	Joseph A. Smith	H0004434	6967

128   7590   04/04/2008
HONEYWELL INTERNATIONAL INC.
101 COLUMBIA ROAD
P O BOX 2245
MORRISTOWN, NJ 07962-2245

EXAMINER
ZHE, MENG YAO

ART UNIT	PAPER NUMBER
2195	

MAIL DATE	DELIVERY MODE
04/04/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
	10/696,122	SMITH ET AL.
Office Action Summary	Examiner	Art Unit	
	MENGYAO ZHE	2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS,
WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>20 December 2007</u>.

2a) ☒ This action is **FINAL.**   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-37</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-37</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All b) ☐ Some * c) ☐ None of:

      1. ☐ Certified copies of the priority documents have been received.

      2. ☐ Certified copies of the priority documents have been received in Application No. _____.

      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

1.   Claims 1-37 are presented for examination.

Claim Rejections - 35 USC § 101

2.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3.   Claim 37 recites a "system"; however, it appears that the system would reasonably be interpreted by one of ordinary skill in the art as software, per se, failing to be tangibly embodied or include any recited <u>hardware</u> such as a processor or memory, as part of the system.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5.   Claims 7-12, 19-21, 31-36 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

   A.   The following claim languages are unclear and indefinite:

          i)   Claim 7, it is uncertain if "a first thread pad time" is the equivalent of

          the pad time mentioned in claim 1.

Claims 19 and 31 have the same deficiencies as claim 7 above.

Claim Rejections - 35 USC § 103

6.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

7.   Claims 1-6, 13-18, 25-30, 37, are rejected under 35 U.S.C. 103(a) as being

unpatentable over Bollella et al., Pub. No. 2002/0138542 (hereafter Bollella).

8.   As per claims 1, 13, 25, 37, Bollella teaches a method of apportioning additional

task activation time to at least one application (Para 28, lines 1-4), at least two computer

application tasks that experience activation time budget overruns in a system where the

at least one application monitors and controls functions, the method comprising:

       setting a variable to a system pad time value predetermined before execution of

the application (Para 40, 41: the extension is initialized to 0 before any tasks starts

running);

       during the execution of the at least two computer application tasks of the at least

one application,

       activating a first application task for an a first actual activation time (Para 38, the

actual ATU is equivalent of actual activation time),

comparing the first actual activation time with a first activation time budget predetermined before execution of the application (Para 38; Para 41: the deadline value are stored),

if the first actual activation time exceeds the first activation time budget, adjusting the system pad time value to thereby obtain an updated pad time value (Para 43),

activating a second application task for a second actual activation time (Para 43: since the same procedure of thread 1 is performed for all 1-N tasks, N is the equivalent of the second task),

comparing the second actual activation time with a second activation time budget predetermined before execution of the application (Para 38; Para 41), and

if the second actual activation time exceeds the second activation time budget, adjusting the system pad time value to thereby obtain the updated pad time value (Para 43: the same procedure of task 1 is performed for all 1-N threads).

Bollella does not specifically teach that the application comprises of the two tasks or that tasks are threads. However, Bollella does teach that the invention is applicable to JAVA real-time system (Para 50). It is well known in the art that in JAVA systems tasks of a program/application are threads and thus is obvious that threads execution times are adjusted based on the teaching of Bollella. It is also obvious to one of ordinary skill in the art that applications are a plurality of tasks/subprograms as such is well known in the art.

9.   As per claims 2, 14, 26, Bollella teaches setting the variable to the updated pad
time value (Para 43).

10.   As per claims 3, 15, 27, Bollella teaches initiating a predetermined response if
the updated pad time value is adjusted to a predetermined response initiation value
(Para 41, Para 43: the predetermined response initiation value corresponds an
extension cost of 0 initially; the predetermined response is the response after the
determination that more extension should be given.).

11.   As per claims 4, 16, 28, Bollella does not teach wherein the predetermined
response initiation value is a value less than zero.
        However, since the initiation value is just a starting value that indicates that the
thread is running for the first time, the value can be anything as long as it is
recognizable to the system itself according to its own protocol. Therefore, it would have
been obvious to one having ordinary skill in the art at the time of the applicant's
invention to set the initiation value to be anything including less than zero.

12.   As per claims 5, 6, 17, 18, 29, 30, Bollella does not specifically teach resetting
the variable to the predetermined system pad time value at a predetermined periodicity
when the application is executed.

However, under the circumstance that an application needs to be rerun, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to reset the predetermined system pad time value back at zero to start again.

13.   Claims 7-12, 19-24, 31-36, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bollella et al., Pub. No. 2002/0138542 (hereafter Bollella) in view of Anderson et al., Patent No. 5,628,013 (hereafter Anderson).

14.   Anderson was cited in the previous office action.

15.   As per claims 7, 19, 31, Bollella does not specifically teach wherein the first thread activation time budget comprises: a first thread execution time; and a first thread pad time.

However, Anderson teaches wherein the first thread activation time budget comprises: a first thread execution time; and a first thread pad time (Column 18, line 46) for the purpose of giving an overhead to a budget estimation. It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Bollella with wherein the first thread activation time budget comprises: a first thread execution time; and a first thread pad time, because it gives an overhead to the budget estimation.

16.   As per claims 8, 20, 32, Anderson teaches subtracting the first thread pad time

from the first activation time budget to obtain a first initial thread timer value; initializing a

first thread timer to the first initial thread timer value; and enabling the first thread timer

upon activation of the first application thread (Column 18, line 46: the added margin or b

must be subtracted from the GPB Estimate to get mx).

17.   As per claims 9, 21, 33, Anderson teaches disabling the first thread timer upon

completion of the first actual activation time to thereby obtain a first final thread timer

value (Column 7, lines 15 to 35); and adding the first thread pad time to the first final

thread timer value to determine a first activation time difference value between the first

actual activation time and its the first activation time budget (Column 11, lines 15 to 41).

18.   As per claims 10, 22, 34, Anderson teaches wherein the first thread timer is

operable to decrement from the first initial thread timer value to the first final thread

timer value (Column 7, lines 15 to 35).

19.   As per claims 11, 23, 35, Anderson teaches determining whether the first

activation time difference value is positive or negative; and if the first activation time

difference is negative, adding the first activation time difference value to the system pad

time value to obtain an updated pad time value (Column 7, lines 15 to 35)

.

20.   As per claims 12, 24, 36, Anderson teaches determining whether the updated

pad time value is positive or negative (Column 10, lines 1 to 15: since the remaining

time is the difference between the allotted time and the Estimated time, it is inherent

that the system as disclosed can judge if the result is positive or negative); and if the

updated pad time value is a negative, initiating a predetermined response (Column 12,

lines 10 to 25: Additional margin is added even if the remaining processing is close to

the require processing, it is inherent that it will be added if no remaining time is left,

which corresponds to a negative activation time difference.)

.

Response to Arguments

21.   Applicant's argument filed on 12/20/2007 regarding to claims 1-37 have been

fully considered, but they are moot in view of the new ground of rejection.

Conclusion

22.   Applicants' amendments necessitated the new grounds of rejection presented in

this office action. Accordingly, **THIS ACTION IS MADE FINAL.** Applicant is reminded

of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the

shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later

than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to MengYao Zhe whose telephone number is 571-272-

6946. The examiner can normally be reached on Monday Through Friday, 10:00 - 8:00

EST. If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached at 571-272-3756. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

/Lewis A. Bullock, Jr./

Supervisory Patent Examiner, Art Unit 2193